

Biochemistry (Molecular and Cellular) Information Sheet for entry in 2020

Biochemistry is the use of molecular methods to investigate, explain and manipulate biological processes. The study of life at the molecular level continues to undergo dynamic expansion, leading to ever-increasing insights into topics as various as the origin of life, the nature of disease and the development of individual organisms. Powerful new techniques, such as those of molecular genetics and NMR spectroscopy, enable us to analyse biological phenomena in more and more precise molecular terms. These studies have led to valuable developments in drug design and synthesis, forensic science, environmental monitoring and a whole range of other areas. Furthermore, advances in biochemistry are largely responsible for the breakdown of traditional disciplinary boundaries between cell biology, medicine, physics and chemistry.

The Biochemistry Department in Oxford is one of the largest in Europe, and is subdivided into the following research areas: Cell Biology; Development and Genetics; Chromosomal and RNA Biology; Infection and Disease Processes; Microbiology and Systems Biology; and Structural Biology and Molecular Biophysics. The department is extremely active in research, with about 300 postgraduate students and research staff. The breadth and excellence of these activities are reflected in the scope of the undergraduate course and underpin the teaching. The department has superb research and teaching facilities and excellent digital resources together with access to a wide range of online and print journals.

Fieldwork/work placements/international opportunities

An important aspect of the Oxford Biochemistry course is its fourth-year project, lasting 23 full-time weeks, which provides an opportunity to pursue an in-depth research project under the supervision of an academic member of staff. You choose a project, plan your research programme, design your experiments and present your results to other researchers in the field. The experience gained is much valued by employers. The project also gives you the opportunity to reflect on your aptitude and enthusiasm for a research career.

A wide choice of fourth-year research projects is available both within the Biochemistry Department and in related departments, such as Molecular Medicine, Clinical Biochemistry, Pathology and Pharmacology. It is also possible to carry out your project outside the University or indeed the UK.

A typical week (Years 1-3)

During Years 1-3, your weekly timetable will be divided between lectures (eight to ten a week), tutorials and classes (1 to 3 a week) and practicals (averaging 1 full day a week). The remaining time will be spent on independent study (set reading or problem-solving exercises). Tutorials are usually 2-4 students and a tutor. Class sizes may vary depending on the topic but are usually no more than 10-12 students. The ratio of demonstrators to students during practical sessions is usually about 1:12.

Most tutorials and lectures are delivered by staff who are tutors in their subjects, many of whom are world-leading experts with years of experience in teaching and research. Some



tutorials and lectures may be delivered by postdoctoral researchers, while tutorials are occasionally delivered by postgraduate students. Departmental classes and practicals are supervised by a senior member of staff and largely delivered by postdoctoral researchers or postgraduate students who are studying at doctoral level.

Year 4

In your fourth year, you will choose and complete a project, lasting 25 full-time weeks, which allows you to explore in detail both laboratory-based research and specific recent advances in biochemistry. Alongside the first 3 weeks of the project there will be some advanced skills training. Apart from the project, you will have the task of writing an extended essay in the form of a review article.

You will need to be in Oxford for 12 weeks in the first term, followed by a two-week break over Christmas. You will continue your project over the 8 weeks of the second term and first 3 weeks of the third term, submitting your project dissertation thereafter. You will also deliver an oral presentation on your project.

Under the supervision of a group leader, you will design your own experiments, learn to plan research programmes and present your results and ideas – orally and in written form – to other workers in the field. The research project is written up in a dissertation in a form suitable for publication. While the experience gained and extra maturity acquired during the fourth year is much valued by employers, the project will also give you the opportunity to reflect on your aptitude and enthusiasm for a research career.

This additional work in your final year means that you will graduate with an MBiochem – a master's degree – as well as invaluable research experience that will be excellent preparation for further study or a range of careers. The final degree class is derived from a combination of marks from the assessment on the work done in the second, third and fourth years.

To find out more about how our teaching year is structured, visit our [Academic Year](#) page.

Course structure

YEAR 1	
<p>COURSES Five courses are taken:</p> <ul style="list-style-type: none"> • Cellular biochemistry • Molecular biochemistry • Mechanistic biochemistry • Physical biochemistry • Quantitative biochemistry 	<p>ASSESSMENT First University examinations: 5 written papers; satisfactory practical record</p>
YEARS 2 AND 3	
<p>COURSES Teaching is done along five themes:</p> <ul style="list-style-type: none"> • Tool boxes for biochemistry • Information transfer in biological systems • Molecular processes in the cell • Cellular chemistry • The cell in time and space 	<p>ASSESSMENT Twice-yearly summative assessments (4 x 2 hours) Final University examinations, Part 1: 7 written papers; satisfactory practical record</p>
YEAR 4 (EXTENDED FIRST TERM)	
<p>COURSES</p> <ul style="list-style-type: none"> • Research project: This provides the opportunity to be embedded in a research group and carry out an in-depth research project (23 weeks, full time plus 2 weeks for writing). Advanced skills training alongside the 1st3 weeks of the project. • Coursework: Extended essay in the form of a review article 	<p>ASSESSMENT Assessment of the research project, along with broader research skills displayed in the written work - the project dissertation and the review article.</p>

The University will seek to deliver each course in accordance with the descriptions set out above. However, there may be situations in which it is desirable or necessary for the University to make changes in course provision, either before or after registration. For further information, please see the University's Terms and Conditions.

Fees

These annual fees are for full-time students who begin this undergraduate course here in 2020.

Fee status	Annual Course fees
Home/EU	£9,250
Islands (Channel Islands & Isle of Man)	£9,250
Overseas	£36,065

Information about how much fees and other costs may increase is set out in the University's Terms and Conditions.

Please note that the course fees you pay include your fees for both University and college services and are divided between the University (including your department or faculty) and your college on a formula basis. More information is provided in your Terms and Conditions.

Additional Fees and Charges Information for Biochemistry

All students are required to wear laboratory coats and safety glasses during practicals. These can be purchased from the department at a subsidised cost of £10.

In the final year of the Biochemistry course, students work an extended first term to begin their research project. You will need to be in Oxford for 12 weeks in the first term, followed by a two-week break over Christmas. You will then complete your project in the first six weeks of the second term, and then submit your project dissertation and deliver an oral presentation at the beginning of the final term. In the remaining two weeks of the second term, and throughout the eight weeks of your final term, you will study two further courses that you choose from a list of options. These are assessed at the end of the final term.

The extended terms mean that you will need to budget for higher living costs in the final year, as you will be required to be in Oxford for longer than the standard terms. The additional work in this final year means that you will graduate with an MBiochem - a master's degree - as well as invaluable research experience that will be excellent preparation for further study or a range of careers.

Living costs

Your living costs will vary significantly dependent on your lifestyle. These are estimated to be between £1,135 and £1,650 per month in 2020-2021. Each year of an undergraduate course usually consists of three terms of eight weeks each but you may need to be in Oxford for longer. As a guide you may wish to budget over a nine-month period to ensure you also have sufficient funds during the holidays to meet essential costs.

Living costs breakdown

	Per month		Total for 9 months	
	Lower range	Upper range	Lower range	Upper range
Food	£270	£385	£2,430	£3,465
Accommodation (including utilities)	£630	£760	£5,670	£6,840
Personal items	£130	£245	£1,170	£2,205
Social activities	£45	£110	£405	£990
Study costs	£40	£95	£360	£855
Other	£20	£55	£180	£495
Total	£1,135	£1,650	£10,215	£14,850

In order to provide these likely living costs, the University and the Oxford University Students' Union conducted a living costs survey to complement existing student expenditure data from a variety of sources including the UK government's Student Income and Expenditure Survey and the National Union of Students (NUS). The likely lower and upper ranges above are based on a single student with no dependants living in college accommodation (including utility bills) and are provided for information only.

When planning your finances for future years of study at Oxford beyond 2020-21, you should allow for an estimated increase in living expenses of 3% each year.